OC Public Works
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Shane L. Silsby, Director

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Letter 15

Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O Box 100
Sacramento, CA 95812-2000
By e-mail: commentletters@waterboards.ca.gov

Subject: Comment Letter – Bacteria Provisions

Dear Ms. Townsend:

The County of Orange and the Orange County Flood Control District (collectively "County") appreciate the opportunity to provide the comments on the proposed Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions (ISWEBE) and a Water Quality Standards Variance Policy and the Proposed Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacteria Provisions (Ocean Plan) and a Water Quality Standards Variance Policy (collectively referred to as Bacteria Provisions), and the Draft Staff Report, including the Draft Substitute Environmental Documentation("Staff Report"), for the Bacteria Provisions.

The cities of San Clemente, Dana Point, Irvine, and Mission Viejo have indicated that they should be considered concurring entities with the County's comments.

15.01 The County appreciates the large amount of work that has been put into the development of the Bacteria Provisions and supports the efforts made by the State Water Board to improve the policy for recreational waters. The following comments are offered for consideration in order to further improve the Bacteria Provisions:

Water Quality Objectives

1. General comment (Overall)

15.02 USEPA's 2012 Recreational Water Quality Criteria provides a risk-based approach to recreational water quality that provides flexibility in reducing the risk of illness to recreational users rather than being solely focused on reducing densities of fecal indicator bacteria (FIB). In translating USEPA's approach, however, the proposed Bacteria Provisions and Staff Report do not clearly acknowledge the risk level as the driver behind determining FIB standards, do not clearly set forth the risk-level basis for the proposed numeric criteria for E. coli and

15.03 Entereococci, and do not discuss the limitations of using FIBs to demonstrate health risk. The Bacteria Provisions further, and lack flexibility to allow Regional Boards and permitteesdischargers to utilize alternative indicators (e.g. human markers), or take advantage of future scientific advancement which may identify indicators which better reflect risk to human health. The proposed Bacteria Provisions and its Staff Report should include a more in-

15.04 depth discussion description of the risk based approach upon which the USEPA's 2012 guidance was premised and intended to reflect, and the risk-level basis of the proposed numeric criteria. Further, the Bacteria Provision should include and more flexibility for utilizing

15.05 alternative indicators and evolving science to demonstrate that compliance with the established risk level.

2. AB411 requirements (Ocean Plan II.B.1.b and III.D.1.c)

15.06 The County is concerned that the proposed Bacteria Provisions will create dual requirements for beach water quality monitoring given that AB411, administered under the California Department of Public Health (CDPH), will continue to utilize Total Coliform and Fecal Coliform, based largely on USEPA's 1986 guidance and the 1997 Ocean Plan.

AB411 requires beach monitoring standards to be established by CDPH, but does not strictly specify the indicators and numeric targets that should be used (Section 1, 115880(c)(2-3)). Until such time as AB411 regulations are updated by CDPH, language should be provided to clarify that AB411 requirements should be utilized for beach posting purposes but not for NPDES permit or any other regulatory purposes (e.g. 303(d) listing).

3. Salinity thresholds (ISWEBE III.E.2 Table 1 and Staff Report 2.3.2 and 5.2.2)

15.07 The County supports using *E.coli* as a fresh water indicator and *Enterococcus* as a marine water indicator. However, the salinity thresholds defined in the Bacteria Provisions do not cover all waterbodies especially tidal prisms and estuaries that fluctuate considerably in salinity. Using Aliso Creek mouth in Orange County as an example, during the past three years, the recorded salinity level has been up to 20% higher and 80% lower than 10 parts per thousand, which does not fit into either the fresh water or marine water category. The Staff Report suggestion to select the indicator based on salinity conditions would result in more complicated monitoring and data analysis and slow down monitoring efforts that are highly driven by very tight sample holding times. Furthermore, as the Staff Report implicitly acknowledges in its discussion of the false positives that may result from sampling for *Enterococcus* in water bodies with salinity of less than 10 parts per thousand, a static application of the threshold to waterbodies which fluctuate in salinity may result in unreliable data and result in reporting violations where no actual violation exists.

The County requests that either salinity thresholds be adjusted so that all waterbodies can be covered or that more clear guidance be provided on how to implement the Bacteria Provisions with respect to waterbodies which fluctuate in salinity and/or do not distinctly fall into either the freshwater or marine category. Consideration should be given to moving compliance monitoring out of these areas entirely into a downstream, more consistent marine environment.

15.08

4. "Equally spaced" sampling (ISWEBE III.E.2 Table 1 and Ocean Plan II.B.1.(1))

The proposed Bacteria Provisions indicate that a "statistically sufficient number of samples" to determine attainment is "generally not less than 5 samples equally spaced over a six week period." While equal spacing may be planned, a number of actions can impact the spacing of sampling, especially in regional monitoring programs that are collaborations between agencies under different mandates (public health, sanitary sewer, and stormwater, for example). Other factors affecting spacing include resampling after an elevated bacteria reading and rescheduling of sampling due to rain or other weather events, both of which may be discouraged if equal spacing of samples is a requirement of the Bacteria Provisions. The reference to equally spaced samples should therefore be deleted or at a minimum clarified as not being a requirement based on factors such as field conditions and instances where back-to-back sampling may be appropriate (i.e. to verify an exceedance, etc.).

15.09

5. Dry and wet weather conditions (ISWEBE III.E.2 Table 1 and Ocean Plan II.B.1.(1))

The County is concerned that the proposed Bacteria Provisions do not distinguish between wet and dry weather conditions. Wet weather events are sporadic, short term events that do not have lasting impacts on receiving waters but often result in high bacterial indicators due to uncontrollable sources, many of which are natural. As a result, wet weather data should not be considered in the longer term conditions represented by the geomean or otherwise be used in conjunction with dry weather data to assess conditions.

Similarly, the Statistical Threshold Value (STV) is derived in a manner similar to the Single Sample Maximum (SSM) and is sensitive to bacterial fluctuations. It should not be used as a dry weather objective. The 2004 EPA Great Lakes Rule utilized SSM only for beach notification and closure decisions and determined that the geomean is the more relevant value for ensuring that appropriate actions are taken to protect and improve water quality in dry weather.

Even though the STV contains an underlying allowable exceedance rate of 10%, its use will still force more frequent monitoring, if used on a monthly basis, because once an exceedance is observed, at least ten more samples need to be below the STV before water quality can meet objectives.

It is therefore recommended that: 1) language be included that acknowledges the distinct difference of wet weather conditions; 2) wet weather data be excluded from any geomean calculations; and 3) STV be applied only under conditions (wet or dry) where data is not available to calculate a geomean.

15.10

6. Calculation of geometric mean (ISWEBE III.E.2 Table 1, Ocean Plan II.B.1.(1) and Staff Report 5.2.5)

The Bacteria Provisions and Staff Report recognize that using a rolling average to calculate the STV could result in exceedances over a 6-week period when the actual exceedance no longer exists. The same issue applies to geomeans and yet a rolling average is still being proposed. Although a geomean is less sensitive to random variations, the use of rolling geomeans may still

result in persistent identification of a violation even when the actual violation no longer exists. Consideration should be given to calculating geomeans on a static rather than rolling basis.

15.11

7. Limited Water Contact Recreation (LREC-1) beneficial use (ISWEBE II)

The proposed Bacteria Provisions would allow Regional Boards to designate waterbodies under the LREC-1 beneficial use. Little guidance is provided, however, in the draft Staff Report for implementing such a designation other than it would require a Use Attainability Analysis (UAA). Additional guidance should be provided on the implementation of LREC beneficial use.

Implementation Strategy

15.12

8. High flow suspensions (HFS) (ISWEBE IV.E.3 and 4)

The County supports provisions allowing for high flow or seasonal suspensions, which recognize the danger or infeasibility of recreational activities in rivers or streams under certain circumstances. However, the County does not believe that a UAA is legally required for implementing such provisions and is concerned that such a requirement would make this implementation option overly burdensome and/or impracticable. An HFS was adopted under the implementation provision of the Santa Ana Region Basin Plan through resolution No. R8-2012-0001, in which, the HFS criteria (e.g. velocity or depth) was numerically defined for all engineered or heavily modified streams and applies to all streams that meet the thresholds. It did not require development of UAA. Such a Basin Plan amendment approach has created an efficient pathway to apply suspension provisions to all streams in the region that are delineated according to the criteria without going through a UAA for every individual case. A similar approach should be followed in the Bacteria Provisions.

15.13

9. Mixing zones (Overall and Staff Report 2.7)

The Ocean Plan includes mixing zones for discharges that are implemented through NPDES permits and some Regional Boards have limited language allowing mixing zones in their Basin Plans. However, there is no statewide policy on the application of mixing zones for point sources that contain bacteria. Adding mixing zone language to the Bacteria Provisions would be beneficial and remove a burden from Regional Boards to establish such provisions individually.

15.14

10. Allowable exceedance frequencies (ISWEBE IV.E.2.b and Ocean Plan III.D.1.b & III.D.2.)

Inclusion of the reference system and natural source exclusion (NSE) approaches based on allowable exceedances is appropriate. However, limiting the allowable exceedance frequencies only to STV is inappropriate. When the STV is exceeded due to natural sources, geomean exceedances are often observed in natural reference systems as well, especially in estuary areas (SCCWRP, 2016). The State Board is encouraged to provide further guidance on how the reference system approach should be applied and allow Regional Boards to determine if the reference system approach and NSE can apply to both the geomean and STV depending on local results.

15.15

11. Implementation provisions for natural source of bacteria (ISWEBE IV.E.2 and Ocean Plan III.D.1.b & III.D.2)

Provisions allowing for reference system and natural sources exclusion approaches, which recognize that natural sources of bacteria are beyond control, are appropriate. However, they should not be limited to only TMDL waterbodies. The County believes that establishing such approach and applying it to all qualified waterbodies can avoid 303(d) listing at the first place, more quickly and effectively address other non-TMDL waterbodies, and allow valuable resources to be directed to high priority waterbodies that have controllable sources. By limiting such provisions to TMDL waterbodies, Regional Board's will have to develop TMDLs for waterbodies that could be addressed by a more efficient method.

15.16

12. Water Quality Standards Variances (ISWEBE IV.F and Ocean Plan III.N)

The inclusion of the federal regulatory framework for the adoption of a water quality standards variance is a welcome step. It is an important regulatory tool when treatment technologies and pollutant minimization programs are not feasible.

Economic analysis

15.17

13. Economic analysis for stormwater dischargers (Staff Report 10.4)

The Economic Analysis does not address the fact that the requirements are more stringent than earlier requirement (risk level of 32 vs 36 illnesses per 1000) and it does not reflect the formidable challenges that municipalities face in dealing with the requirements, especially for wet weather. As far as cost savings, the analysis projects cost savings in going from three indicators to one indicator but does not consider that AB411 requirements will still require all three traditional fecal indicator bacteria to be monitored.

The County appreciates the opportunity of providing comments to the Bacteria Provision. Please contact Jian Peng at (714) 955-0650 or Stella Shao at (714) 955-0651 if you have any questions.

Very truly yours,

Chris Crompton, Manager
Water Quality Compliance

Cc: Orange County NPDES Permittees